

**REMARKS**

Claims 1-30 are pending in the application.

Claims 9, 10, 19 and 20 are allowed.

Claims 1-8, 11-18 and 21-30 have been rejected.

The objections to the claims is noted. With regard to claims 6, 16, and 26, Applicant respectfully notes that the phrase “more accurate”, to which the Examiner objects, does not appear in these claims. In claims 7, 17, and 27, this “for more accurate results” phrase is only explanatory of an advantage of adding sampling points, as described in the specification, and so has been deleted. The objections are believed obviated.

The Examiner is respectfully requested to withdraw the finality of the May 12, 2008 Office Action. The Examiner states that “Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office Action”. This is clearly incorrect. The minor amendments made to the claims in the previous response, eliminating the “thickness” term and specifying that the traversal is on the shortest path, were clearly supported by the specification and should have been anticipated by the Examiner. Moreover, while the Onodera reference was of record, the newly-cited art is used solely to support rejections of unamended dependent claims, for features not affected by the amendments to the parent claims. The newly-cited references, and the rejections depending on them, clearly were not “necessitated” by any amendment.

Reconsideration of the claims is respectfully requested.

**I. CLAIM REJECTION UNDER 35 U.S.C. § 112**

Claims 11-18 and 21-28 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter. The Applicants have amended Claims 11-18 and 21-28 as shown above.

Applicant respectfully notes that this rejection appears to be a mere duplicate of the previous rejection, prior to amendment, and the language for which the Examiner rejects these claims does not actually appear in these claims. These rejections are traversed.

Accordingly, the Applicants respectfully request the Examiner to withdraw the § 112 rejection.

**II. CLAIM REJECTION UNDER 35 U.S.C. §102**

Claims 1, 11 and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application No. 2004/0186604 to *Onodera, et al.*, hereinafter “Onodera”. This rejection is respectfully traversed.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131, p. 2100-67 (8<sup>th</sup> ed., rev. 5, August 2006) (*citing In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. *Id.* (*citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

Claim 1 requires identifying a first element in a first wall side of the graphic model; traversing the internal body topology to identify a second element in a second wall side of the graphic model, wherein the traversing is performed on the shortest path between the first element and the second element; measuring the distance between the first element and the second element; and storing the measured distance. Claims 11 and 21 have similar limitations.

Onodera does not teach or suggest these limitations. Onodera mentions “internal-surface model data 114”, which is data of the three-dimensional model, being same to the configuration data (a solid model), such as, the CAD data, for example. FIG. 17 is described as a view for explaining the internal surface model. It is clear that the “internal surface model” is not an internal topology.

Further, Onodera does not teach or suggest traversing an internal body topology to identify a second element in a second wall side of a graphic model, as claimed. There is nothing even similar to this limitation. Onodera does not teach or suggest measuring the distance between the first element and the second element, as claimed. Rather, Onodera simply assumes that the “face-to-face distance between the surfaces in the pair-surface data” is known, and assigns this value as a thickness attribute.

Onodera clearly does not teach the limitations of claims 1, 11, and 21, and so the anticipation rejections are traversed.

Accordingly, the Applicants respectfully request the Examiner to withdraw the § 102 rejection with respect to these claims.

### III. CLAIM REJECTION UNDER 35 U.S.C. § 103

Claims 2, 6, 7, 12, 16, 17, 22, 26 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Onodera reference as applied to claim 1 above, taken in view of U.S. Patent Application No. 2003/0088389 to *Balaniuk, et al.*, hereinafter “Balaniuk”. The Applicants respectfully traverse the rejection.

Claims 3-5, 8, 13-15, 18, 23-25 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Onodera reference as applied to claim 1 above, taken in view of U.S. Patent No. 7,359,841 to *Hixon*, hereinafter “Hixon”. The Applicants respectfully traverse the rejection.

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a *prima facie* case of obviousness. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). See also *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984)). It is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. (*Id.* at 1073, 5 USPQ2d at 1598). In so doing, the examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), *viz.*, (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art. In addition to these factual determinations, the examiner must also provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (*In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir 2006) (cited with approval in *KSR Int’l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007)).

Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. MPEP § 2142, p. 2100-125 (8th ed. rev. 5, August 2006). To establish a *prima facie* case of obviousness, three basic criteria must be met: *Id.* First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

The Examiner cites two additional references, for the existence of a tetrahedral mesh (in Balaniuk) and 3D grid mapping (in Hixon).

With regard to claims 2, 6, 7, 12, 16, 17, 22, 26, and 27, nothing in Balaniuk teaches or suggests traversing any internal body topology, as required by the parent independent claims (as described above) and so no combination of Onodera and Balaniuk teaches or suggests these features. The rejections of these claims is traversed.

No combination of Onodera and Balaniuk teaches or suggests adding sampling points to a surface mesh in the context of claims 7, 17, and 27. Nothing in these references even mentions sampling points.

With regard to claims 3-5, 8, 13-15, 18, 23-25 and 28, nothing in Hixon teaches or suggests traversing any internal body topology, as required by the parent independent claims (as described

above) and so no combination of Onodera and Hixon teaches or suggests these features. The rejections of these claims is traversed. Hixon's "grid that is mapped in both space and time", with "acoustic waves" as shown in Fig. 13, relied upon by the Examiner, has nothing at all do to with the claimed 3D grid mapping of an internal body topology of a graphic model, as claimed.

Hixon is an unrelated art, with unrelated teachings, and has no bearing at all on the present claims. All rejections based on Hixon are flawed, and will be reversed on appeal, for while Hixon uses some common terms as the present application, Hixon is describing much different concepts than the claimed embodiments.

Accordingly, the Applicants respectfully request the Examiner to withdraw the § 103 rejection with respect to these claims.

**CONCLUSION**

As a result of the foregoing, the Applicants assert that the remaining claims in the Application are in condition for allowance, and respectfully requests that this Application be passed to issue.

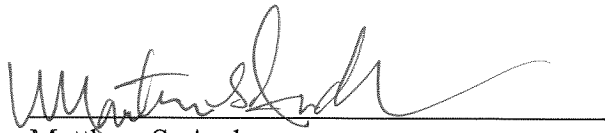
If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *manderson@munckcarter.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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